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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,855	10/24/2000	Robert M. Amici	00077	3438

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EXAMINER

TRA, TUYEN Q

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 01/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/694,855

Applicant(s)

AMICI ET AL.

Examiner

Tuyen Q Tra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The declaration filed 5/01/01 is acceptable.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 2, 4, 5, 7, 8, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheridan et al.(U.S. Pat. 6,055,091).
4. With respect to claim 1, Sheridan et al. discloses a twisting-cylinder display comprising of:
a) an arrangement of capsules, wherein each capsule comprises a bichromal ball 31 having two hemispheres, wherein one of the hemispheres has at least a surface comprising a modified colored pigment 22 having attached at least one organic group and the other hemisphere has at least a surface 21 with a different color and different electrical properties, wherein each ball is enclosed within a shell 30 wherein a liquid (dielectric fluid in Fig. 3) is present between the shell and ball so that the ball is free to rotate in response to an electrical field (col. 9, line 35-39);

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b) first and second electrodes 54a and 54b (Fig. 5A) wherein the arrangement is located between the electrodes and wherein at least one of the electrodes 54a is substantially visually transparent (col. 6, line 4-5); and

c) means for creating a potential difference between the two electrodes, wherein the potential difference causes the bichromal balls to rotate toward one of the electrodes (col. , line , Fig. 4).

5. With respect to claim 2, Sheridan et al. discloses a twisting-cylinder display comprising of an arrangement of particles, wherein an optical response results from the rotation of the particles in a fluid, wherein a portion of the particles have attached at least one organic group having an ionic group, ionizable group, or both

6. With respect to claim 4, Sheridan et al. further discloses that the bichromal ball 31 comprises a pigment (item 22, Fig. 2) in with at least one of the hemispheres comprising a surface containing the modified colored pigment (see Fig. 2 and 3).

7. With respect to claim 5, Sheridan et al. discloses a twisting-cylinder display comprising of a bichromal ball 31 having two hemispheres, wherein one of the hemispheres has at least a surface comprising a modified colored pigment (col. 9, line 36-39) having attached at least one organic group and the other hemisphere has at least a surface with a different color and different electrical properties, wherein the ball is enclosed within a shell wherein a liquid (dielectric fluid

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in col. 4, line 56, Fig. 2) is present between the shell 30 and ball 31 so that the ball 31 is free to rotate.

8. With respect to claims 7 and 8, Sheridan et al. discloses a twisting-cylinder display comprising of:

a) an arrangement of capsules, wherein each capsule comprises a bichromal ball 31 having two segments, wherein one of the segments has at least a surface comprising a modified colored pigment 22 having attached at least one organic group and the other segment has at least a surface 21 with a different color and different electrical properties, wherein each ball is enclosed within a shell 30 wherein a liquid (dielectric fluid in Fig. 3) is present between the shell and ball so that the ball is free to rotate in response to an electrical field (col. 9, line 35-39);

b) first and second electrodes 54a and 54b (Fig. 5A) wherein the arrangement is located between the electrodes and wherein at least one of the electrodes 54a is substantially visually transparent (col. 6, line 4-5); and

c) means for creating a potential difference between the two electrodes, wherein the potential difference causes the bichromal balls to rotate toward one of the electrodes (col. , line , Fig. 4).

9. With respect to claim 10, Sheridan et al. discloses a twisting-cylinder display comprising of:

a) an arrangement of capsules, wherein an optical response results from the rotation of elements in a fluid within the capsule, wherein a portion of the elements comprises a modified colored

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pigment having attached at least one organic group having an ionic group, ionizable group, or both; and

b) means to cause the controlled rotation of the elements to achieve the optical response.

10. Claims 6, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheridan et al (U.S. Pat. 5,919,409).

a) With respect to claim 6, Sheridan et al. discloses a twisting-ball display in Fig. 5 comprising of a bichromal ball 540 having two or more segments 542 and 544 wherein one of the segments comprises a modified colored pigment having attached at least one organic group and the other segment has a different color and different electrical properties, wherein the ball is enclosed within a shell 500 wherein a liquid is present between the shell and ball so that the ball is free to rotate (col.1, line 1-4, Fig. 5).

b) With respect to claim 11, Sheridan et al. discloses a twisting-cylinder display comprising of: a bichromal element having two segments, wherein one of the segments comprises a modified colored pigment having attached at least one organic group and the other segment has at least a surface with a different color and different electrical properties, wherein each element is enclosed within a shell wherein a liquid is present between the shell and the element so that the element is free to rotate.

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c) With respect to claim 12, Sheridan et al. discloses a twisting-ball display in Fig. 5 comprising of a bichromal ball 540 having two or more segments 542 and 544 wherein one of the segments comprises a modified colored pigment having attached at least one organic group and the other segment has a different color and different electrical properties, wherein each element is enclosed within a shell 500 wherein a liquid is present between the shell and element so that the element is free to rotate (col.1, line 1-4, Fig. 5).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan et al.(U.S. Pat. 6,055,091), as applied to claim 1 above, in view of Sheridan (U.S. Pat. 5,919,409).

Sheridon et al. discloses a twisting-cylinder display with each capsules comprising of bichromal ball. However, Sheridan et al. does not implicitly disclose that bichromal ball is the modified color pigment. Within the same field of endeavor, Sheridan (U.S. 5,919,409) discloses bichromal ball made of modified color pigment (col. 10, line 22-24, Fig. 2A and 2B; col. 22, line 30-41).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the twisting-cylinder display device with each capsule

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comprising a bichromal element such as disclosed by Sheridan et al., with polychromal ball is modified colored pigment such as discloses by Sheridan (U.S. 5,919,409), for purpose of providing a displaying having colors.

13. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan et al.(U.S. Pat. 6,055,091) in view of Sheridan (U.S. Pat. 5,919,409).

Sheridon et al. discloses a twisting-cylinder display comprising of:

(a) an arrangement of capsules, wherein each capsule comprises a bichromal element having at least two segments, wherein one of the segments comprises a modified colored pigment having attached at least one organic group and the other segment has a different color and different electrical properties, wherein each element is enclosed within a shell wherein a liquid is present between the shell and element so that the element is free to rotate in response to an electrical field;

(b) first and second electrodes wherein the arrangement is located between the electrodes and wherein at least one of the electrodes is substantially visually transparent; and

(c) means for creating a potential difference between the two electrodes, wherein the potential difference causes the bichromal elements to rotate toward one of the electrodes.

However, Sheridan et al. fails to disclose that each capsule comprises of polychromal elements. Within the same field of endeavor, Sheridan (U.S. 5,919,409) discloses a twisting ball display with each capsule comprises polychromal elements.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the twisting-cylinder display with each capsule comprises a

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bichromal element such as disclosed by Sheridan et al., with each capsule comprises a polychromal elements such as discloses by Sheridan (U.S. 5,919,409), for purpose of making cost-effective in manufacturing.

Conclusion

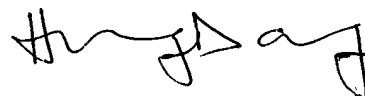
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (703) 306-5712. The examiner can normally be reached on Monday to Friday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (703) 308-4883. The fax number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Examiner: Tuyen Tra

Date: January 8, 2002



Hung Xuan Dang
Primary Examiner